

MISSISSIPPI DEPARTMENT OF
**AGRICULTURE
& COMMERCE**

Mississippi State
UNIVERSITY
Extension
SERVICE

MISSISSIPPI DELTA COTTON, THE CROPLAND DATA LAYER, AND SOIL MAPS, 2006-2009

Thomas L. Gregory
National Agricultural Statistics Service
Jackson, MS
Tommy_Gregory@nass.usda.gov

Fred L. Shore, Ph.D.
Mississippi Department of Agriculture
and Commerce
Jackson, MS

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Land Cover Categories

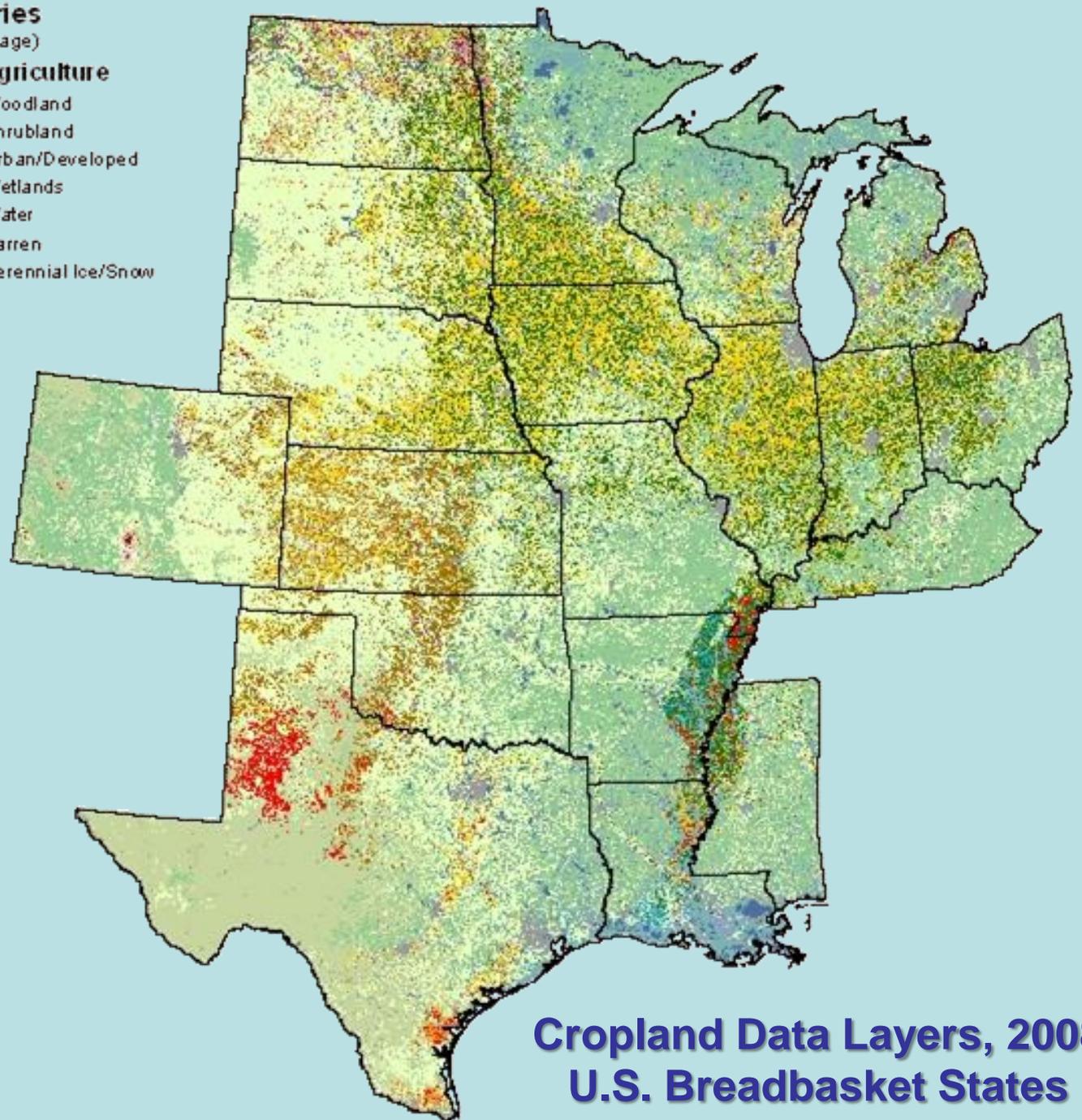
(Ordered by Decreasing Acreage)

Agriculture

- Pasture/Grass
- Corn
- Soybeans
- Winter Wheat
- Spring Wheat
- Fallow/Idle Cropland
- Cotton
- Sorghum
- Alfalfa
- W. Wht./Soy. D.bl. Crop.
- Rice
- Sunflowers
- Durum Wheat
- Barley
- Dry Beans
- Canola
- Sugarbeets
- Peas
- Oats
- Millet
- Sugarcane
- Rye
- Flaxseed
- Potatoes
- Seed/Sod Grass
- Aquaculture
- Lentils
- Peanuts
- Other Small Grains
- Other Crops
- Misc. Veggies. & Fruits
- Other Tree Nuts & Fruits
- Clover/Wildflowers
- Safflower
- Sweet Potatoes
- Apples/Cherries
- Christmas Trees

Non-Agriculture

- Woodland
- Shrubland
- Urban/Developed
- Wetlands
- Water
- Barren
- Perennial Ice/Snow

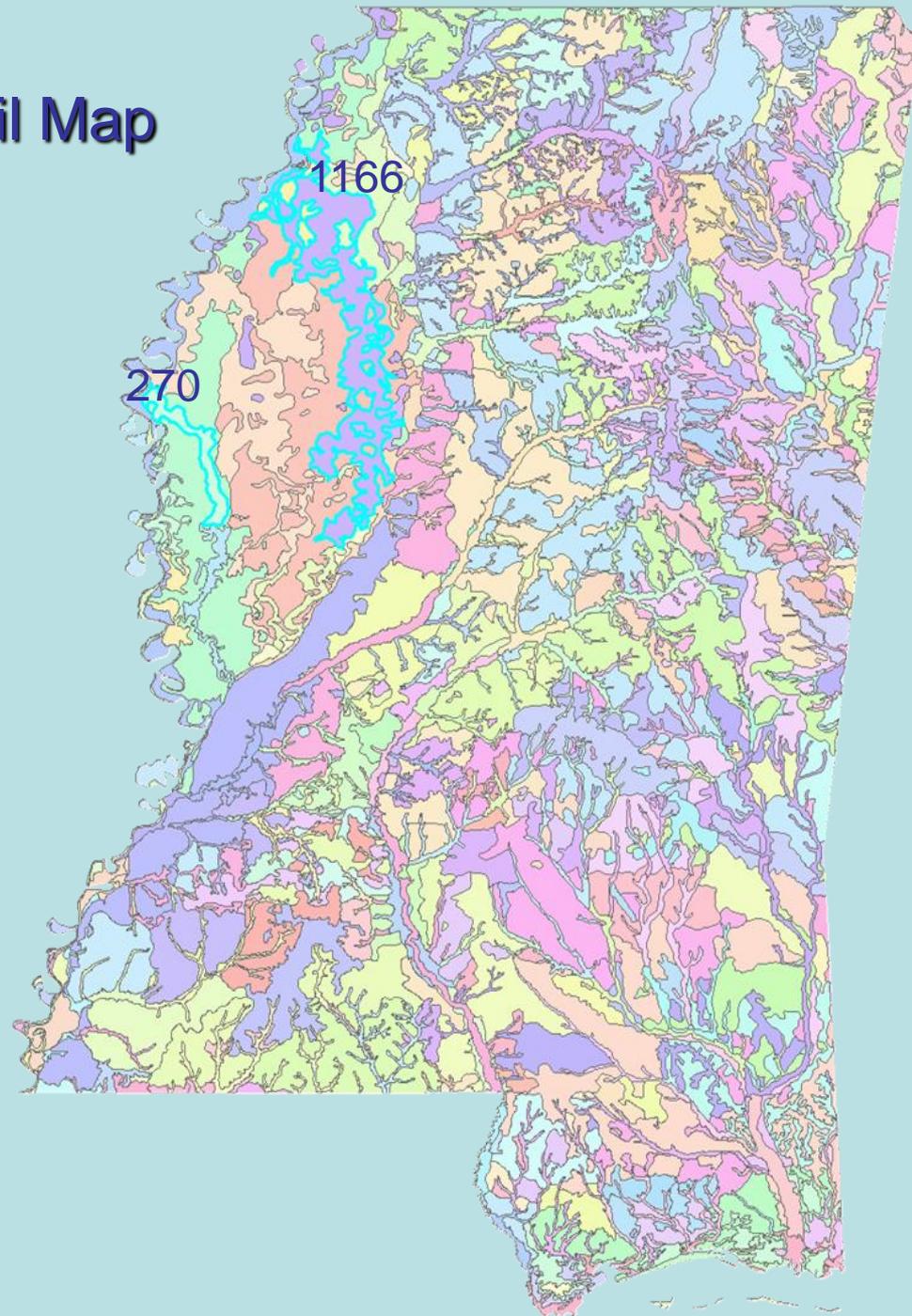


Cropland Data Layers, 2008
U.S. Breadbasket States

The USDA-NRCS General Soil Map of Mississippi

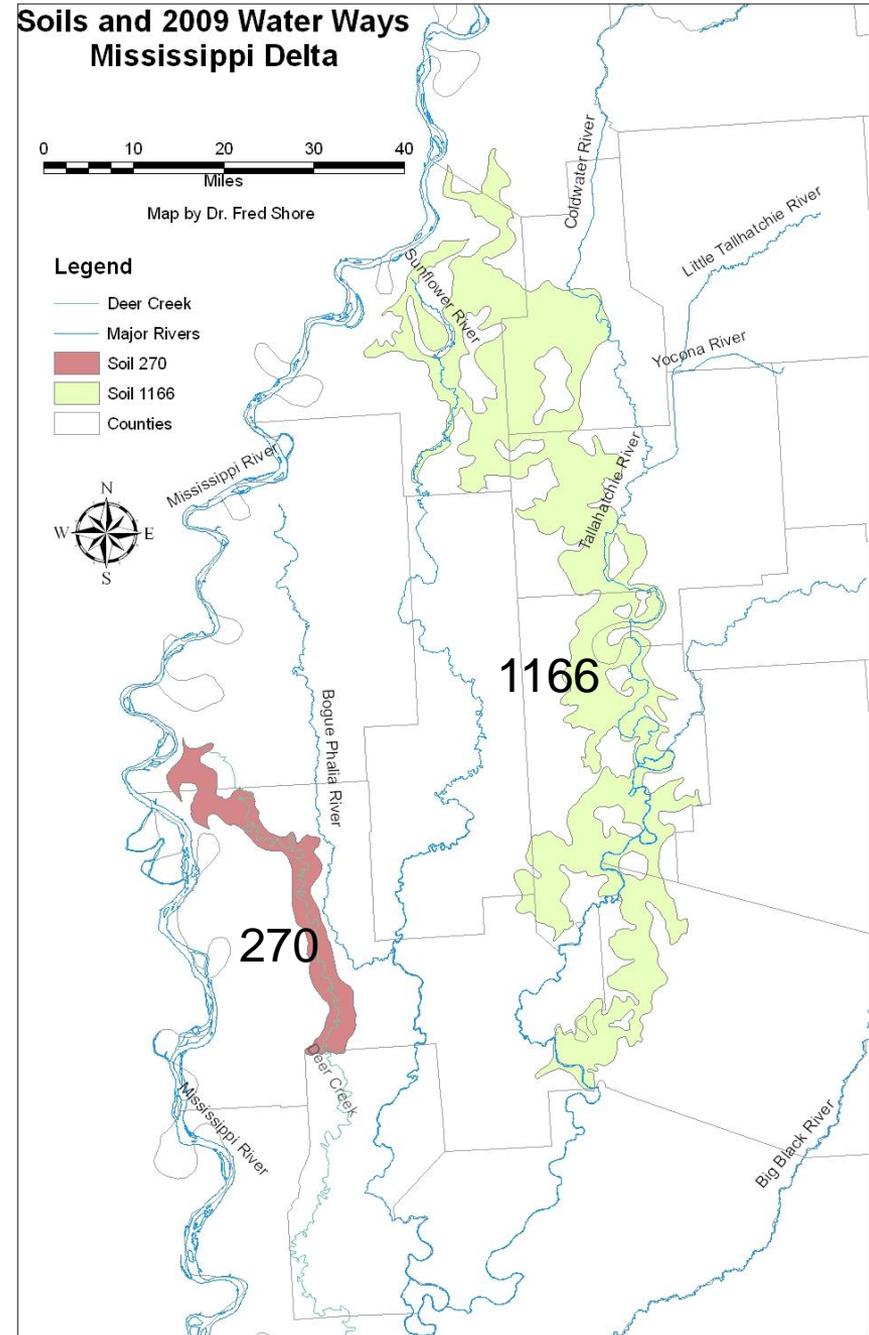
A total of 1,326 different soils are shown on this map.

The two highlighted soils of the Delta both are historically important cotton growing areas. Soil 270 is 81,708 acres and soil 1166 is 585,271 acres.



Soil and Modern River Locations

Modern creeks and rivers are not always contained in the soil areas. For example, soil 1166 contains parts of the Tallahatchie and the Sunflower Rivers. This soil was once the bottomlands along an ancient water course, perhaps the Mississippi River itself.



Cotton Cropping Intensity 2006-8, Overlaying the Soil Map

Different areas of the Mississippi Delta have different land use. The NRCS General Soil Map is a useful categorization to compare the major crop growing areas. In this map the soils layer is overlaid with the cotton cropping intensity.

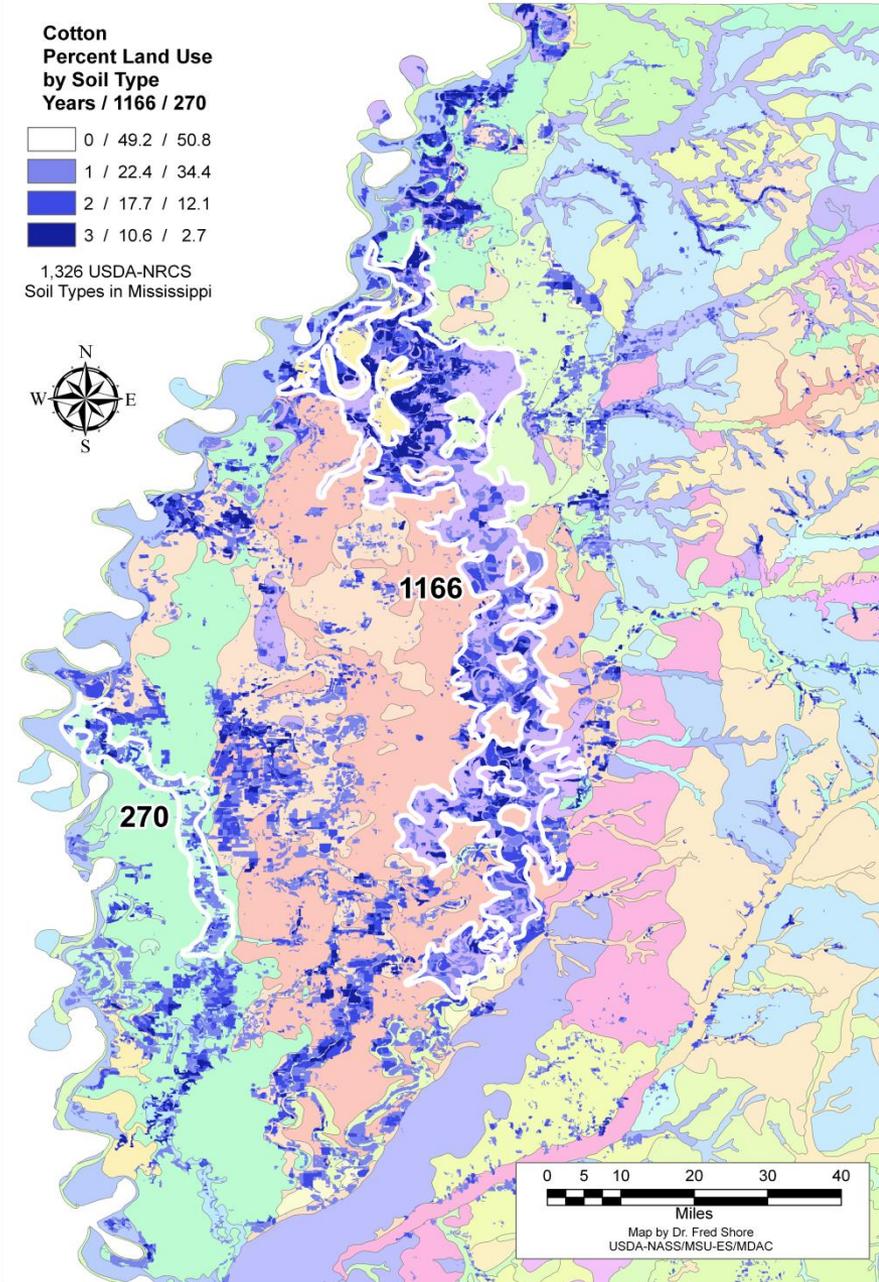
Soil area 1166 has more continuous cropping for cotton. The statistics are 10.6% continuous cropping in soil area 1166 vs. 2.7% in soil area 270.

Cotton Cropping Intensity, 2006-2008 and General Soil Map of the Mississippi Delta

Cotton
Percent Land Use
by Soil Type
Years / 1166 / 270

0	49.2	50.8
1	22.4	34.4
2	17.7	12.1
3	10.6	2.7

1,326 USDA-NRCS
Soil Types in Mississippi



Map by Dr. Fred Shore
USDA-NASS/MSU-ES/MDAC

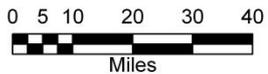
Cotton Planted by Soil and Frequency, 2006-2008

Years of Use	Soil 1166		Soil 270	
	Acres	Percent	Acres	Percent
0	287,982	49.2	41,538	50.8
1	131,137	22.4	28,110	34.4
2	103,823	17.7	9,890	12.1
3	62,330	10.6	2,170	2.7
Total	585,271	100.0	81,708	100.0

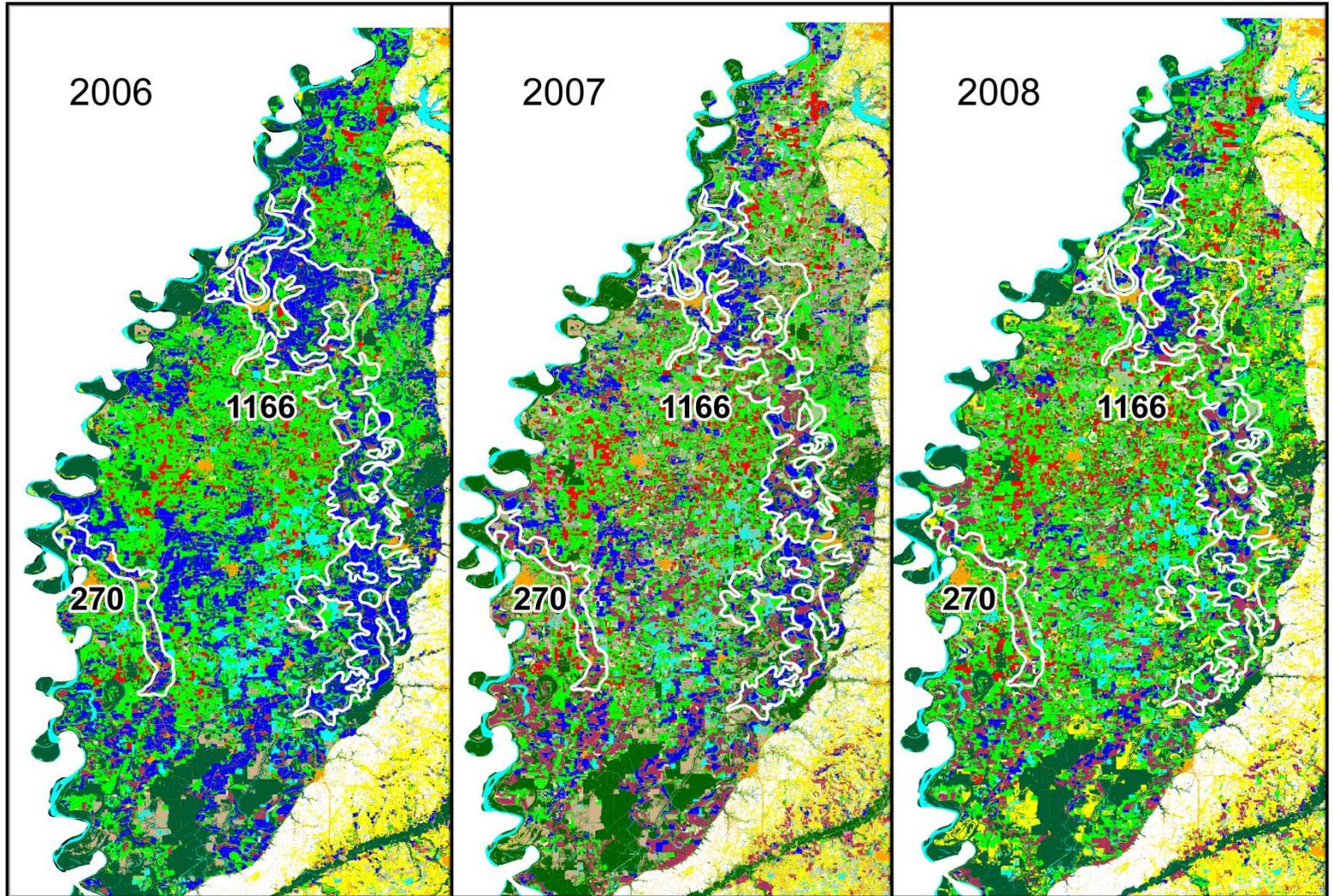
Cropland Data Layer and Two Soils of the Mississippi Delta

Legend

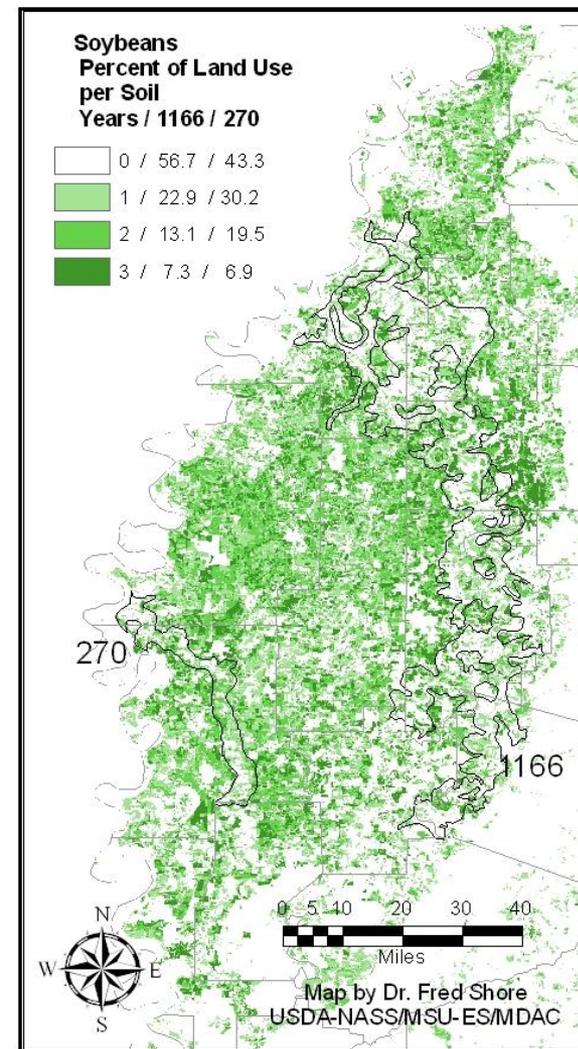
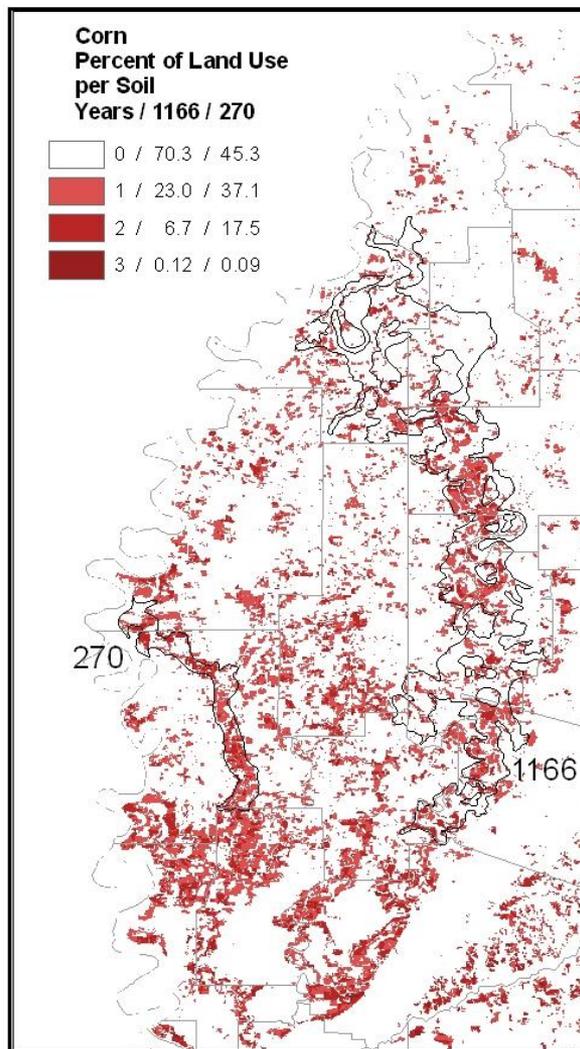
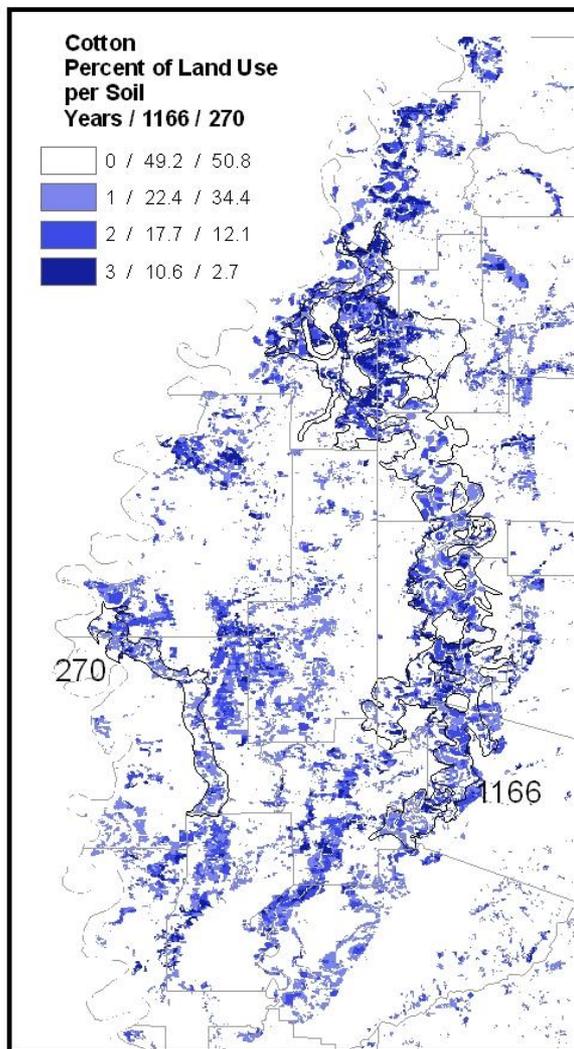
- Corn
- Cotton
- Rice
- Sorghum
- Soybeans
- Hay
- Peanuts
- Sweet Potatoes
- Winter Wheat
- Soybeans/Winter Wheat
- Other Crops
- Pasture, Open
- Fallow, Idle
- Pine Forests
- Hardwood Forests
- Mixed Forests
- Woody Wetlands
- Wetlands
- Urban
- Water



Map by Dr. Fred Shore
USDA-NASS/MSUCEP/MDAC



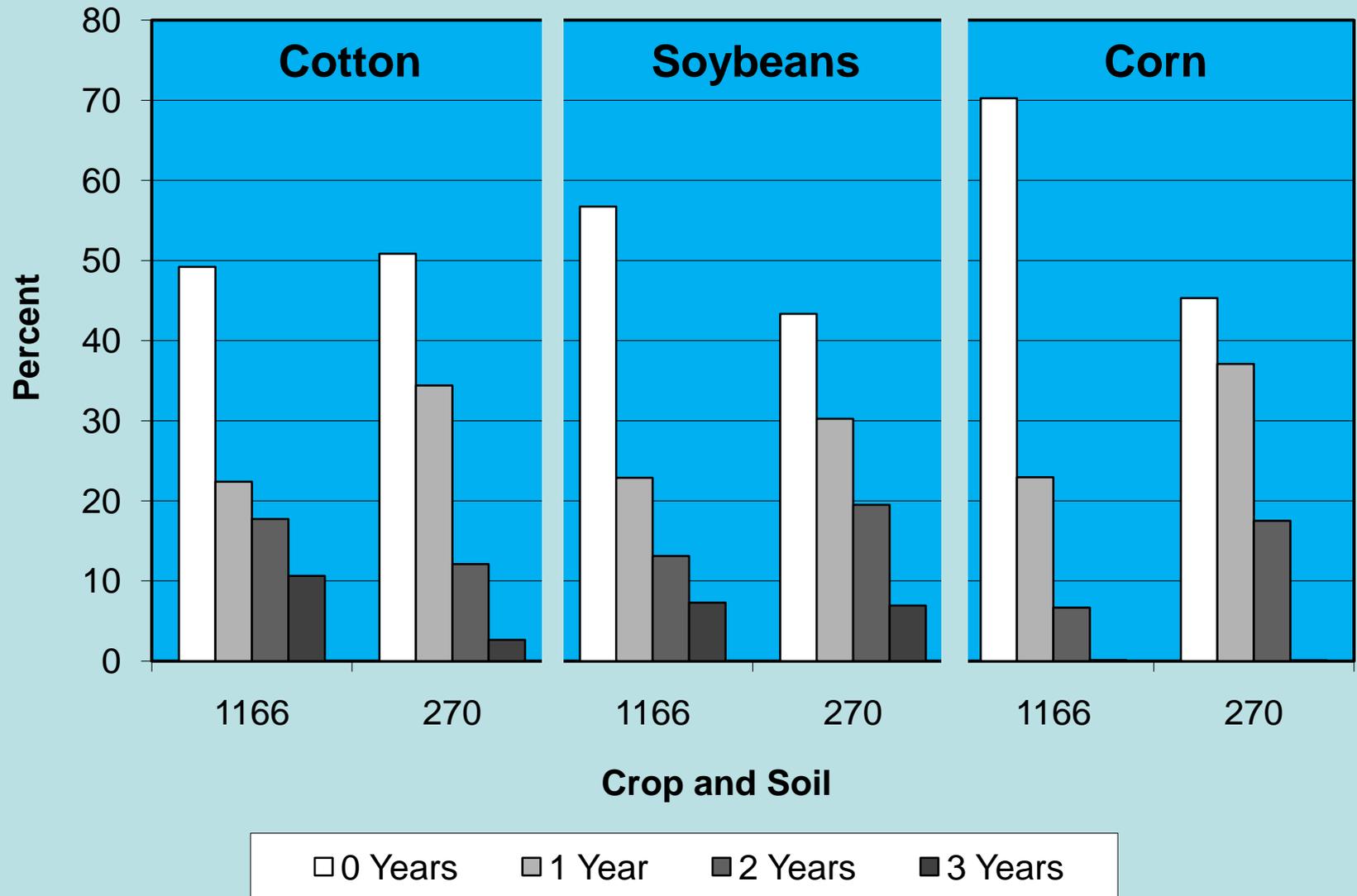
Crop Intensity for Two Soils of the Mississippi Delta, 2006-2008



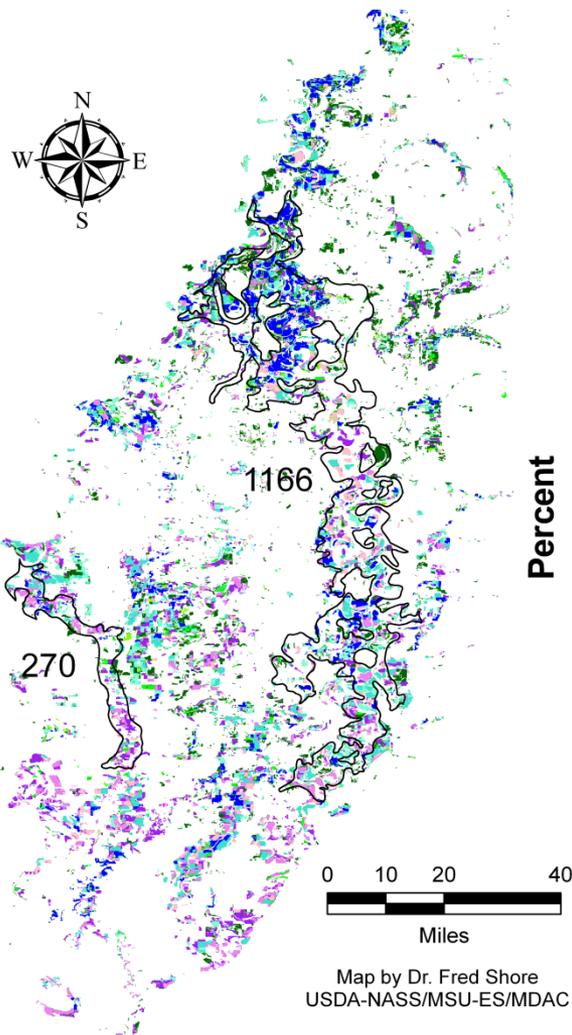
Soybeans and Corn Planted by Soil and Frequency

Years of Use	Soybeans				Corn			
	Soil 1166		Soil 270		Soil 1166		Soil 270	
	Acres	Percent	Acres	Percent	Acres	Percent	Acres	Percent
0	331,962	56.7	35,405	43.3	411,255	70.3	37,008	45.3
1	133,869	22.9	24,716	30.2	134,293	22.9	30,313	37.1
2	76,817	13.1	15,931	19.5	39,017	6.7	14,317	17.5
3	42,623	7.3	5,656	6.9	707	0.1	70	0.1
Total	585,271	100.0	81,708	100.0	585,271	100.0	81,708	100.0

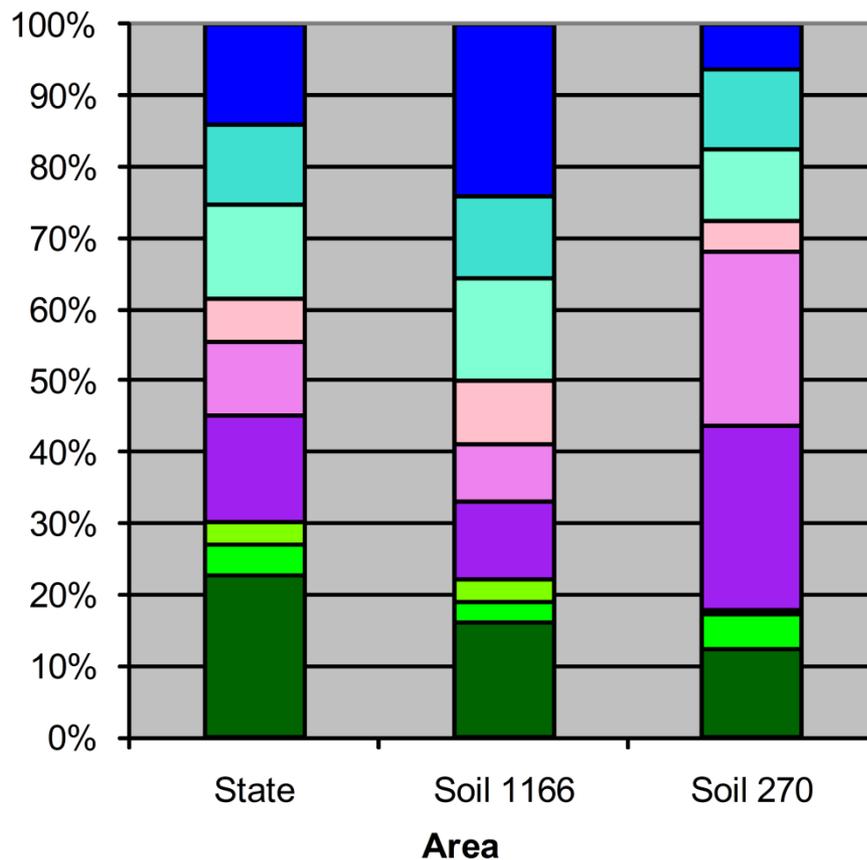
Percent Land Use by Crop and Soil, 2006-2008



Mississippi Delta Crop Rotation from Cotton Acres in 2006



Cotton Rotation Statistics from 2006



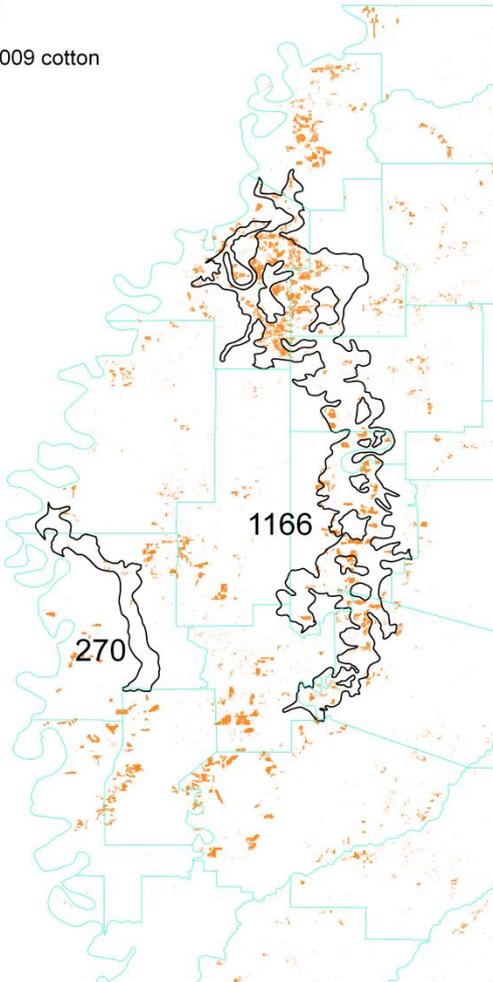
- Crop Rotations
2006-2007-2008**
- cotton-cotton-cotton
 - cotton-cotton-corn
 - cotton-cotton-other
 - cotton-corn-cotton
 - cotton-corn-corn
 - cotton-corn-other
 - cotton-other-cotton
 - cotton-other-corn
 - cotton-other-other

2009 Cotton Planted in the Delta by Soil and Frequency

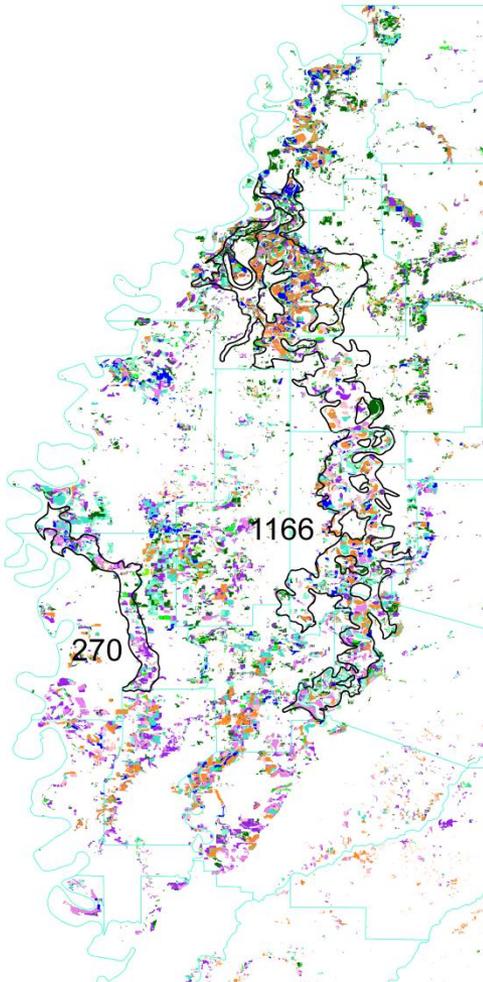
Mississippi Delta Area Cotton 2009

Legend

2009 cotton



Mississippi Delta Area Cotton 2009
Overlay on 2006-2008 Rotation

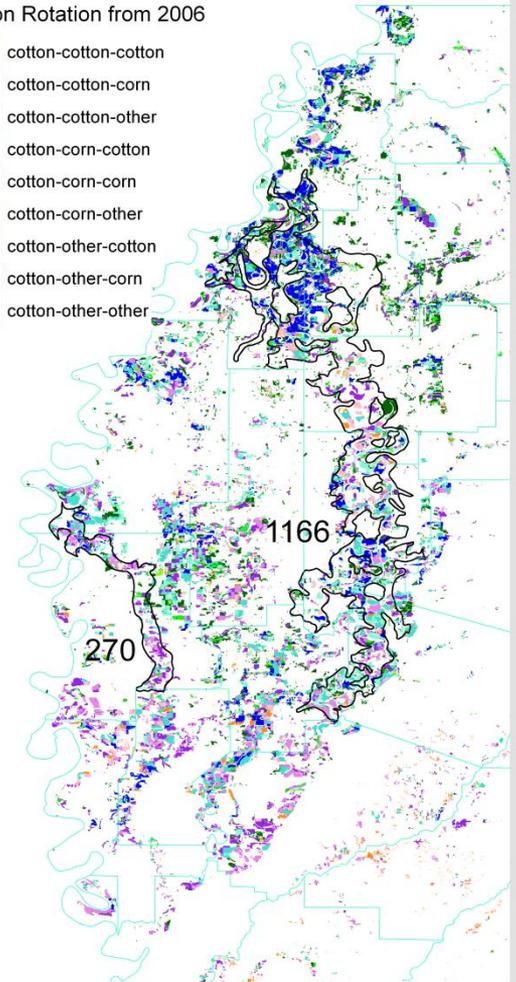


Mississippi Delta Area Cotton 2009
Under 2006-2008 Rotation

Legend

Cotton Rotation from 2006

- cotton-cotton-cotton
- cotton-cotton-corn
- cotton-cotton-other
- cotton-corn-cotton
- cotton-corn-corn
- cotton-corn-other
- cotton-other-cotton
- cotton-other-corn
- cotton-other-other



MISSISSIPPI DELTA COTTON, THE CROPLAND DATA LAYER, AND SOIL MAPS, 2006-2009

Results and Conclusions

Coupling the CDL cropping intensity and rotation with the NRCS General Soil Map gives statistics of crop use for specific soils.

Two soils traditionally planted to cotton are along the Tallahatchie and Sunflower Rivers (1166) and along Deer Creek (270). For these areas in 2006-2008:

- The percent land use for cotton at least one year is 50.8 and 49.2, respectively.
- The percent of continuous cotton use varies widely for the two soils: soil 1166 at 10.6 percent and soil 270 at 2.7 percent.
- In 2009, only 1.4% of the surface area of soil 270 was planted to cotton vs. 11.6 percent for soil 1166.